

Serial No. 10/620,590

Docket No. P-0520

Amdt. Dated September 15, 2004

Reply to Office Action of June 15, 2004

REMARKS/ARGUMENTS

Claims 9-25 are pending in this application. By this Amendment, the Abstract, drawings, and claims 9-10, 12, and 14 are amended, claims 15-25 are added, and claims 1-8 are cancelled without prejudice or disclaimer. No new matter is added. Support for the claims can be found throughout the specification, including the original claims, and the drawings. Withdrawal of the rejections in view of the above amendments and the following remarks is respectfully requested.

I. Objection to the Drawings

The Office Action objects to the drawings under 37 CFR 1.83(a), indicating “the moving part of the VCR” is not shown in the drawings. This feature has been deleted from the claims. Accordingly, the objection to the drawings should be withdrawn.

II. Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 1-8 under 35 U.S.C. §112, second paragraph. Claims 1-8 are cancelled, and thus the rejection is moot.

III. Rejection(s) Under 35 U.S.C. §102(b)

The Office Action rejects claims 1 and 4-6 under 35 U.S.C. §102(b) as being anticipated by Song et al., U.S. Patent No. 5,408,275 (hereinafter “Song”). Claims 1 and 4-6 are cancelled, and thus the rejection is moot.

The Office Action rejects claims 1 and 3-8 under 35 U.S.C. §102(b) as being anticipated by Shimizu et al., U.S. Patent No. 4,922,063 (hereinafter “Shimizu”). Claims 1 and 3-8 are cancelled, and thus the rejection is moot.

IV. Rejection(s) Under 35 U.S.C. §103(a)

The Office Action rejects claim 2 under 35 U.S.C. §103(a) as being unpatentable over Song in view of Schmidt et al., U.S. Patent No. 5,546,067 (hereinafter “Schmidt”). Claim 2 is cancelled, and thus the rejection is moot.

The Office Action rejects claims 9-14 under 35 U.S.C. §103(a) as being unpatentable over Song and Shimizu, and further in view of Schmidt. The rejection is respectfully traversed.

Independent claim 9 recites, *inter alia*, a plurality of brushes mounted on the main printed circuit board and positioned over a contact point mode pattern, wherein the plurality of brushes are configured to deflect so as to contact the contact point mode pattern, and a rotor installed on the main printed circuit board comprising a plurality of protrusions configured to deflect the plurality of brushes. Song neither discloses nor suggests such features.

Song discloses a system for controlling a television receiver 20 which employs a remote control unit 10 with a rotary encoder to facilitate accelerated channel and sound level adjustment. The rotary encoder includes a shaft unit 26 which engages with a circular protrusion 30 of a bracket 29 through a guide tooth part 28 on one end, and with a rotary knob 32 on the other end. A plurality of resilient slit terminals 21-23 on the front disc 25 come into contact with a plurality of patterns 18-20 formed on a printed circuit board 17 when the encoder is assembled and the knob 32 is rotated by a user.

The rotation of the disc 25 and the resulting rotation of the terminals 21-23 to bring them into contact with the patterns 18-20 is accomplished through a user's rotation of the knob 32, and is done to increase a speed at which an adjustment to a channel or sound level is made with a lesser number of buttons on a face of the remote control unit 10. The terminals 21-23 disclosed by Song are clearly attached to and part of the front disc 25, and are not mounted on the printed circuit board 17, nor are the terminals 21-23 configured to deflect so as to contact the patterns 18-20.

Additionally, Song fails to disclose or suggest a plurality of protrusions configured to deflect a plurality of brushes. Rather, the guide tooth part 28, which forms the only "protrusions," extends in a direction away from the terminals 21-23 and patterns 18-20 so as to engage with a circular protrusion 30 of the bracket 29. Contrary to what is asserted by the Office Action, the guide tooth part 28 does not cause any deflection of the terminals 21-23. Thus, Song neither discloses nor suggests the plurality of brushes or the rotor comprising a

plurality of protrusions configured to deflect the plurality of brushes as recited in independent claim 9.

Further, Shimizu fails to overcome the deficiencies of Song. That is, Shimizu discloses an electric data switch, including a rotary switch rotor 6 coupled to a printed circuit board 1 with electrodes 21-27 arranged thereon. A moveable contact base 8 is held in place in the rotor 6 by a pair of braces 7. The contact base 8 includes three slits 9 separating four contact portions 5a-5d, each of the four contact portions 5a-5d having a respective node 15a-15d supported by a spring bar 10. As the switch rotor 6 rotates along the electrodes 21-27, the nodes 15a-15d contact and cross the electrodes 21-27 as shown by the hatched areas in Figure 2A of Shimizu. The contacts 5a-5d and nodes 15a-15d formed on the contact member 8 are clearly attached to the switch rotor 6 by the braces 7, and are not mounted on the printed circuit board 1.

Additionally, Shimizu does not disclose or suggest that the contacts 5a-5d and/or nodes 15a-15d are configured to be deflected, let alone that the rotor 6 includes protrusions configured to deflect the contacts 5a-5d and/or nodes 15a-15d. Accordingly, it is respectfully submitted that Shimizu, like Song, neither discloses nor suggests the plurality of brushes or the rotor comprising a plurality of protrusions as recited in independent claim 9.

Still further, Schmidt fails to overcome the deficiencies of Song and Shimizu, as Schmidt is merely cited to teach the use of rotor hooks.

The Examiner asserts that it would have been obvious to one of ordinary skill in the art to have the plurality of brushes on the circuit board, as rearranging parts of an invention

involves only routine skill in the art. However, it is respectfully submitted that the placement of the plurality of brushes on the main printed circuit board as recited in independent claim 9 is not a mere rearrangement of parts. Rather, this movement of the plurality of brushes from the rotor to the main printed circuit board requires that the plurality of brushes be configured to deflect, and also requires the addition of a plurality of protrusions to the rotor which are configured to cause a deflection of the brushes. Thus, it is respectfully submitted that the combination of independent claim 9 does not represent a simple rearrangement of parts which would be obvious to one of ordinary skill in the art.

For at least these reasons, it is respectfully submitted that independent claim 9 is allowable over the applied combination, and thus the rejection of independent claim 9 under 35 U.S.C. §103(a) over Song, Shimizu, and Schmidt should be withdrawn. Dependent claims 10-14 are allowable at least for the reasons discussed above with respect to independent claim 9, from which they depend, as well as for their added features.

V. NEW CLAIMS 15-25

New claims 15-25 are added to the application. It is respectfully submitted that new claims 15-25 define over the applied prior art references and meet the requirements of 35 U.S.C.

§ 112.

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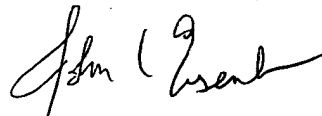
More specifically, the applied prior art references neither disclose nor suggest a plurality of brushes configured to be deflected, nor a plurality of protrusions configured to deflect the plurality of brushes as recited in new independent claims 18 and 21.

VI. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **John C. Eisenhart**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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Amendments to the Drawings:

The attached drawings include changes to Fig. 6. This sheet, which includes Figs. 5B and 6, replaces the original sheet including Figs. 5B and 6.

In Figure 6, one of the two reference numerals 151 has been deleted to accurately reflect the position of the hole 151 formed in the contactor 150.

Attachment: Replacement Sheet (1)
Annotated Sheet Showing Changes (1)

FIG. 5B

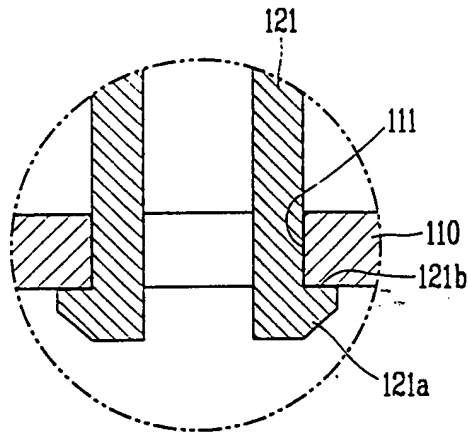


FIG. 6

